National Institute of Environmental Health Sciences

Season of birth and risk of atopic disease among children and adolescents

Author(s): Knudsen TB, Thomsen SF, Ulrik CS, Fenger M, Nepper-Christensen S, Backer V
Year: 2007
Journal: The Journal of Asthma : Official Journal of The Association for The Care of Asthma. 44 (4): 257-260

Abstract:

BACKGROUND: Season of birth (SOB) has been regarded as a risk factor for atopy. The aim of this study was to explore the relationship between season of birth (SOB) and later development of atopic disease in children and adolescents. METHODS: A total of 1,007 randomly selected subjects, 7 to 17 years of age, who were living in urban Copenhagen, Denmark were studied. All participants were interviewed about respiratory symptoms and possible risk factors for atopic disease. Skin test reactivity, serum total immunoglobulin E (IgE), and airway responsiveness were measured using standard techniques. RESULTS: The overall risk of atopy, as judged by skin test reactivity and serum total IgE, was the same regardless of SOB. On the contrary, asthma was more common in subjects born in the autumn compared with subjects born during the remaining part of the year (12.4% vs. 5.6%), OR Euro Surveillance (Bulletin Europeen Sur Les Maladies Transmissibles; European Communicable Disease Bulletin) 2.40, 95% CI (1.56-3.94), p < 0.001. This was observed both for atopic asthma OR Euro Surveillance (Bulletin Europeen Sur Les Maladies Transmissibles; European Communicable Disease Bulletin) 2.41, 95% CI (1.25-4.64), p Euro Surveillance (Bulletin Europeen Sur Les Maladies Transmissibles; European Communicable Disease Bulletin) 0.007, non-atopic asthma, OR Euro Surveillance (Bulletin Europeen Sur Les Maladies Transmissibles; European Communicable Disease Bulletin) 2.35, 95% CI (1.14-4.83), p Euro Surveillance (Bulletin Europeen Sur Les Maladies Transmissibles; European Communicable Disease Bulletin) 0.02, and house dust mite (HDM) sensitive airway hyperresponsiveness, OR Euro Surveillance (Bulletin Europeen Sur Les Maladies Transmissibles; European Communicable Disease Bulletin) 3.00, 95% CI (1.44-6.24), p Euro Surveillance (Bulletin Europeen Sur Les Maladies Transmissibles; European Communicable Disease Bulletin) 0.002. Rhinitis and pollen allergy were not significantly related to SOB. CONCLUSIONS: Atopy itself is independent of season of birth, whereas asthma is more prevalent among subjects born during the autumn. Regarding asthma, these results suggest that the first months of life enclose a period of particular vulnerability towards environmental risk factors, especially exposure to aeroallergens like HDM.

Source: Ask your librarian to help locate this item.

Resource Description

Exposure :

weather or climate related pathway by which climate change affects health

Temperature

Temperature: Fluctuations

Geographic Feature: ☑

resource focuses on specific type of geography

None or Unspecified

Geographic Location: ☑

resource focuses on specific location

Non-United States

Non-United States: Europe

European Region/Country: European Country

Other European Country : Denmark

Health Impact: ☑

specification of health effect or disease related to climate change exposure

Respiratory Effect, Other Health Impact

Respiratory Effect: Asthma, Upper Respiratory Allergy, Other Respiratory Effect

Respiratory Condition (other) : airway hyperresponsiveness; Rhinitis

Other Health Impact: pollen allergy

Population of Concern: A focus of content

Population of Concern: ☑

populations at particular risk or vulnerability to climate change impacts

Children

Resource Type: ☑

format or standard characteristic of resource

Research Article

Timescale: ☑

time period studied

Time Scale Unspecified